

DP-301187

DIFFRACTION GRATING, METHOD OF MAKING AND METHOD OF USING

ABSTRACT OF THE INVENTION

A diffraction grating device operable as a reflection or transmission grating, and a method of manufacturing and using any number of such grating devices so that each device is individually electrically addressable to diffract radiation of different wavelengths. The grating device comprises first and second sets of interdigitated elements so that each element of the first set defines an element pair with an immediately adjacent element of the second set, a first gap is defined between the elements of each element pair, and a second gap is defined between each adjacent pair of element pairs. The elements of an element pair are selectively movable toward and away from each other. As such, the widths of the gaps can be selectively sized to diffract radiation of a desired wavelength.